

REMARKS/ARGUMENTS

Attached hereto is a Substitute Specification, including a Comparison Copy. The specification has been revised to eliminate spelling and grammatical errors and to render it more easily readable. The changes to the specification required on page 2 of the Office Action have been incorporated.

Claims 25-52 remain in this application. Claims 1-24 have been canceled.

New independent claim 25 is a combination of original, now-canceled claims 1 and 6.

Dependent claims 26-52 are directed to the features previously covered by now-canceled claims 2-5, 8-12 and 14-18. Previous dependent claims which had one or more alternatives identified by "and/or" have been broken up into multiple dependent claims to eliminate alternatives from the individual claims.

All pending claims are in full compliance with Section 112.

The present invention, as defined by new independent claim 25, is directed to a deformable endoscope which has a fiberscope part (light/image transmission passage and optical work channel) and an additional instrument (for example biopsy forceps). The two parts of the endoscope are not permanently connected, and they can be separated from each other. A holding device couples the fiberscope part and the additional instrument to each other. As recited in claim 25, the holding device includes a "permanent magnet and at least one counter-element made of magnetic material" which are applied to the fiberscope part and the additional instrument and secure them to each other.

Claim 25 further recites that when attached to each other, the fiberscope part and the additional instrument form a unit that has a non-round cross-section. This permits an optimal use of the available space in endoscopes intended to be inserted through a narrow body orifice, such as a nasal passage. As a result of the non-round cross-section and the optimal use of the available space, a sedation of the patient is often not necessary because defensive reflexes by the

patient, such as biting an endoscope inserted through the mouth, are not possible. Further, the non-round cross-section of the endoscope provides advantageous stability and prevents undesired twisting of the endoscope about its longitudinal axis, as is stated in paragraphs 0007 and 0008 of the Substitute Specification.

As is recited in independent claim 25, the fiberscope part and the additional instrument are magnetically coupled. As a result, they can be displaced in a longitudinal direction with respect to each other. This permits a more flexible use of the additional instrument. For example, when the additional instruments are biopsy forceps, the forceps may be displaced with respect to the distal end of the fiberscope part so that the monitoring of an endoscope insertion procedure through the light/image transmission passage will not be impaired. After the fiberscope has been sufficiently inserted and has reached the desired position, the biopsy forceps can be extended relative to the distal end of the fiberscope part for taking a sample (paragraph 0017 of the Substitute Specification).

Original claim 6, the substance of which is now part of independent claim 25, was rejected for anticipation by Adair (5,643,175) only.

Adair discloses an endoscope with an optical capsule section and a separable, disposable channel section. The distal end of the channel section is removably attached to the capsule section, and it has a plurality of longitudinal channels, for example for the transmission of fluids. The channel section is attached to the optical capsule section for a one-time use only. It is disposed after its first and only use. This makes it easier to clean the optical capsule section, which corresponds to the fiberscope part recited in claim 25.

In Figs. 20 to 22, Adair shows an embodiment of the endoscope in which the removable channel section S_b is attached to the capsule section C_b with a magnetic strip (column 9, lines 49-52 of Adair).

There is no disclosure in Adair - indeed, there is no mention anywhere in this reference - that the capsule section and the magnetically attached channel sections are, should be, or can be displaced with respect to each other in a longitudinal direction. Further, and in contrast

to claim 25, the capsule section and channel section of Adair have a round cross-section (see Figs. 1-3 and 20-22) and not a "non-round cross-section" as is recited in claim 25.

Consequently, Adair does not disclose the subject matter of and, therefore, does not anticipate new independent claim 25.

Adair, alone or in combination with any of the references of record, also does not render claim 25 obvious, although applicant notes none of the original claims was rejected for obviousness.

Nevertheless, applicant points out that the above-discussed differences between claim 25 and Adair render the endoscope of the present invention particularly well-suited for the pharyngo-esophago-gastroscope, as is explained in substantial detail in paragraphs 0012(a)-(i) of the Substitute Specification.

As a result of the optimized cross-section of the endoscope of the present invention, it can be inserted through the nose into the esophagus of the patient, which avoids defensive reflexes of the patient, particularly biting reflexes frequently encountered during the oral insertion of endoscopes. After the endoscope of the present invention has reached its desired position, the magnetically coupled additional instrument (such as biopsy forceps) can be moved relative to the distal end of the fiberscope part. This movement of the additional instrument relative to the fiberscope part allows one to carry out other examinations with the help of different instruments, as is discussed in paragraph 0017 of the Substitute Specification.

Further, the present invention makes it possible to leave the additional instrument at a stationary position while the fiberscope part is displaced (e.g. retracted) relative to the additional instrument so that certain long-term examinations as discussed in paragraph 0018 of the Substitute Specification can be conducted.

All embodiments disclosed in Adair provide a fixed, that is, non-movable, connection between the fiberscope part and the additional instrument. To this end, Adair discloses a variety of ways of attaching the channel section in a fixed position to the capsule

section and teaches that “[t]his can include a magnetic attachment or the use of a very strong elastic band” (column 2, lines 50-51).

Adair explicitly teaches to provide a removable but fixed position of the channel section relative to the capsule section. In column 2, lines 21-23, Adair states that “[t]he separable channel section is removably attached to the capsule in fixed relationship” Similarly, in column 2, lines 53-55 speak of “holding the separable channel section in the releasable, yet fixed relationship to the capsule”. Along the same lines, column 6, lines 19 and 20 disclose the “fixed position” of the separable channel section S and the removably connectable capsule C, and in column 9, lines 64-67 state that the magnetic strip holds the separable section in “a fixed but removable position”.

By equating a very strong elastic band to a magnetic attachment, and expressly stating that the attachment is fixed and that no relative longitudinal movement is possible or desirable, one of ordinary skill in the art would find no motivation from Adair to consider an attachment mechanism which permits relative longitudinal movements.

This is particularly true since none of the other references of record disclose to magnetically couple a fiberscope part to an additional instrument, which permits the two to be longitudinally displaced with respect to each other.

As the foregoing demonstrates, claim 25 is also not obvious over Adair or any of the other references, taken individually or in combination.

Claims 26-52, which depend from claim 25, are directed to a variety of features of the present invention which are independently patentable. These claims are further allowable because they depend from a now-allowable parent claim.

CONCLUSION


In view of the foregoing, applicant submits that this application is in condition for allowance. A corresponding notification at an early date is requested.

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PATENT

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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